

- (c) an implant support operatively connected to the reactor vessel;
- (d) a stirrer disposed within the reactor vessel;
- (f) an inlet and an aperture operatively connected to the reactor vessel;
- (g) a controlled source of carbon dioxide operatively connected to the inlet, wherein the aperture is configured to avoid increasing internal pressure of the reactor vessel.

45. (Amended) A device for coating an implant comprising:

- (a) a reactor vessel;
- (b) a heating element capable of maintaining a temperature between 5 and 50 °C, operatively connected to the reactor vessel;
- (c) an implant support operatively connected to the reactor vessel;
- (d) a stirrer disposed within the reactor vessel, which is magnetically coupled to a stirring system;
- (e) an electrode to measure pH operatively connected to the reactor vessel;
- (f) an inlet operatively connected to the reactor vessel and operatively connected to a valve to control the flow of carbon dioxide;
- (g) a source of carbon dioxide operatively connected to the valve to control the flow of carbon dioxide; and
- (h) an aperture operatively connected to the reactor vessel, wherein the aperture is configured to avoid increasing internal pressure of the reactor vessel.

46. (Amended) A device for coating an implant comprising:

- (a) a reactor vessel;

- (b) a heating element capable of maintaining a temperature between 5 and 50 °C, operatively connected to the reactor vessel;
- (c) an implant support operatively connected to the reactor vessel;
- (d) a stirrer disposed within the reactor vessel, which is magnetically coupled to a stirring system;
- (e) an electrode to measure pH operatively connected to the reactor vessel;
- (f) an inlet operatively connected to the reactor vessel and operatively connected to a valve to control the flow of carbon dioxide;
- (g) a source of carbon dioxide operatively connected to the valve to control the flow of carbon dioxide;
- (h) an aperture operatively connected to the reactor vessel, wherein the aperture is configured to avoid increasing internal pressure of the reactor vessel; and
- (i) an automated system to measure, record and/or control parameters selected from the group consisting of pH, temperature, carbon dioxide flow, calcium concentration, phosphate concentration, and carbonate concentration.

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